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ABSTRACT

To examine the relationship between children's social-cognitive status and the production of persuasive arguments and to determine the effects of age and the channel of communication on these arguments, 16 first grade, 17 third grade, and 16 fifth grade students were asked to produce both oral and written persuasive messages and were administered a measure of cognitive role taking. Significant partial correlations between the role taking measure and the following measures of written persuasives were found: variety of requests, highest level of request, and total number of supports for requests. The results provided weak support for the notion that persuasion reflects children's social-cognitive status. Age effects on all measures of persuasion indicated that children's arguments became longer, more varied, and more complex with age. Age and channel interactions for variety and total number of requests suggested that the written channel was facilitative for only fifth grade students in the sample. (MM)

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Persuasion as a social-cognitive activity: The effects of age and channel of communication on children's production of persuasive messages*

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Abstract

There were two objectives in the study: to examine relations between children's social-cognitive status and production of persuasive arguments and to determine the effects of age and channel of communication on the production of persuasive arguments. Children in grades 1, 3, and 5 produced controlled written and oral persuasive arguments. Their texts were coded according to Clark and Delia's (1976) social-cognitive model of persuasion. Chandler's (1973) measure of cognitive role-taking was also administered. Significant partial correlations between Chandler's measure and the following measures of written persuasives were found: variety of requests, highest level of request, and total number of supports for requests. The results provide weak support for the notion that persuasion reflects children's social-cognitive status. Age effects on all measures of persuasion indicated that children's arguments became longer, more varied and more complex with age. Age x channel interactions for variety and total requests suggest that the written channel is facilitative only for fifth graders. Channel did not effect differentially younger children's generation of persuasives, only fifth graders' performance varied by channel.

Persuasion as a social-cognitive activity: The effects of age and channel of communication on children's production of persuasive messages

Recent research suggests that children's generation of persuasive messages is affected by age (Rubin & Piche, 1979), social-cognitive status (Clark & Delia, 1976), and channel of communication (Pellegrini, Galda, & Rubin, in press; Rubin, 1984). In the present study we examined the extent to which these factors were related to elementary school children's production of persuasive messages.

The ability to think about others' thoughts (cognitive role-taking ability) is said to influence children's social interactions, generally (Shantz, 1975), and their ability to generate effective persuasive messages, specifically (Clark & Delia, 1976). That is, in order to convince someone, a persuader must understand ways in which a persuadee construes the events under consideration (Clark & Delia, 1976; Rubin & Piche, 1979). Research suggests that both persuasive skills (Clark, Kline & Burleson, 1979) and cognitive role-taking status (Shantz, 1975) develop across the elementary school years in an interrelated manner.

A model of persuasive message production, reflecting persuaders' cognitive role-taking status, has been constructed by Clark and Delia (1976). Persuasive arguments, in this model, are rated hierarchically according to four major levels for both requests and support for requests, as outlined in Figure 1.

/Figure 1 here/

This model is said to be hierarchic in that higher level persuasives reflect higher cognitive role-taking status and that with age children generate higher level arguments. The lowest level argument in this model, Level 0, is given to a message with no statement of request or support for the request; persuaders at this level assume persuadees already know their wishes. Level 1 is more advanced to the extent that requests and supports for requests are expressed, though they are unelaborated. Level 2 is marked by the presence of counterarguments. This is a higher level than the preceding levels in that persuaders' must understand others' views in order to anticipate their objections. In Level 3, the highest level, persuaders focus on possible advantages to the persuadee. This type of persuasion indicates an ability to accommodate to persuadees' interests. Research suggests that children use higher order persuasives as they progress through school (Clark & Delia, 1976; Delia, Klein & Burleson, 1979).

The claim that this model of persuasion production reflects persuaders cognitive role-taking status is based on correlations between types of persuasive arguments produced (i.e., the highest form and the variety of different persuasive arguments produced) and persuaders' cognitive complexity (Delia, Clark & Switzer, 1974). Cognitive complexity, one measure of cognitive role-taking, indicates the extent to which one differentiates psychological attributes of auditors. The psychometric data to support the social-cognitive claims of the cognitive complexity model, however, are weak, e.g., the temporal consistency of the instrument is very low (.25) when administered to children (O'Keefe & Sypher, 1981). Further, construct validity data on the instrument are not related to other measures of cognitive

role-taking. Given this lack of psychometric rigor one must question the use of the cognitive complexity model as a basis for making social-cognitive inferences regarding the model of persuasion production outlined above. The first objective of the present study is to examine the relation between the Clark and Delia (1976) persuasion model and a psychometrically powerful measure of cognitive role-taking: Chandler's (1973) measure. Chandler's measure also indicates the extent to which one differentiates others' psychological attributes. This measure does have high internal (.96) and temporal (.84) consistency as well as construct validity (Enright & Lapsley, 1980). If the persuasion scale does reflect one's ability to a differentiate persuadee's psychological attributes, one would expect significant positive correlations between performance on the Chandler measure (1979) and the complexity and variety of persuasive arguments produced.

The channel through which persuaders attempt to convince persuadees should also effect the complexity and, the variety of persuasive arguments generated to the extent that each channel makes different cognitive demands on the persuader. The oral channel typically allows persuaders little time to preplan their arguments, other things being equal, such as persuadee presence (Chafe, 1982). In light of this reduced planning time constraint, the persuader in the oral channel, compared to one in the written channel, should generate less complex and less varied persuasives arguments. In the oral channel, persuaders' do not have time to analyze audience status and to produce audience sensative persuasives. Higgins (1977), Chafe (1982), and Pellegrini, Galda and Rubin (in press) note that the time allowed in writing between the generation and expression of ideas helps writers adopt their

messages to the audiences' perspectives. It should follow then, that written persuasives should be more complex than oral persuasives. Further, writers, more than speakers, would produce more varied persuasives because they use the increased planning time to analyze audiences' characteristics (Chafe, 1982; Higgins, 1977). Persuaders' awareness of different audience characteristics should be reflected in their generation of a variety of persuasive arguments. It should also follow that complex and more differentiated persuasives in the written channel should correlate reliably with Chandler's measure of social cognition.

These facilitative effects of the written channel, however, may vary with age. Higgins (1977) suggests that writing should have a facilitative effect on young children's performance on communication tasks because it enables writters to accommodate to the audiences' perspectives. Kroll (1978; Kroll & Lemperz, 1981), on the other hand, suggests that the written channel may actually interfere with young children's cognitive role-taking and communicative performance. He argued that the physical act of writing for a distant and hypothetical audience may accentuate, not diminish, egocentrism. In the present study we will further explore this question by examining the extent to which channel and age interact statistically on the variety and complexity of persuasive arguments produced.

To summarize, there are two objectives in the present study. First, we examined the relations between a valid measure of cognitive role-taking and a model of persuasion production. Second, we were interested in the ways in which age and channel of communication each affected and interacted with each other on production of persuasives.

Method

Subjects

The sample, part of a larger study (Pellegrini, et al., in press) was drawn from a mixed suburban public school in a suburb of Atlanta, GA. The sample was drawn from individual classrooms in grades 1, 3, and 5. There were 16 first graders (8 girls and 8 boys); 17 third graders (8 girls and 9 boys); and 16 fifth graders (9 girls and 7 boys) in the sample. The mean ages, in months, for grades 1, 3, and 5 were 82.56 (SD = 10.01); 105.32 (SD =12.10); and 128.30 (SD = 17.04), respectively.

Procedure

Subjects participated in both oral and written persuasive tasks. Three experimenters, one female and two males, conducted the data collection sessions. Experimenter assignment to tasks was counter-balanced within and across grades. Language samples and the social perspective-taking measure were obtained in a quiet area of the children's classrooms. The written tasks were administered in small groups for third and fifth graders and individually dictated for first graders. The oral tasks and the social perspective taking measure were individually administered to all children; these tasks were audiotaped. Tapes were subsequently transcribed and checked for ommission of language by all three experimenters.

All children produced both oral and written persuasive messages. Because first graders' writing skills are limited, a "dictation procedure" (King & Rentel, 1979) was used for their written tasks. More specifically, first graders were told as part of the instructions for the written tasks, "I know

you don't know all about writing, so if you tell me the words, I'll write them down." King and Rental (1979) have reported that dictated texts more closely resemble written than oral texts. In this study we will attempt to replicate this finding.

The field of discourse (the subject matter) of the persuasive task was controlled to the extent that children were asked to talk and write about a specific picture of a circus. Channel of discourse (oral and written) was experimentally manipulated. In the persuasive task, they were told: "Let's pretend that you and I/another experimenter will be going to the circus. Tell/write what you would say so that when we get to the circus I/another experimenter will let you ride this elephant." For this task children were shown the same color picture of a circus elephant. Each experimenter was randomly assigned as the audience for one third of the oral and written tasks, thereby controlling the tenor (audience) of discourse.

Design and Measures

The study was a counterbalanced quasi-experimetal factorial design (Campbell & Stanley, 1963). The between subject variable was grade level (at three levels: 1, 3, and 5); the within subject variable was channel of discourse (at two levels: oral and written). Data were submitted to repeated measures analyses of variance. Planned comparisons were calculated, at the .05 level, according to Student's Newman-Keuls procedure. In addition, Pearson product moment correlations were calculated among various measures of persuasion and role-taking scores. Because the Chandler measured related significantly to age, age was partialled out in these calculations.

Chandler's (1973) measure of cognitive role-taking was used because of its high psychometric qualities (Enright & Lapsley, 1980). In this task a child is exposed to two story characters, one of whom has privileged information while the other does not. The child's understanding of each character's view of a situation, in light of the differential knowledge, is assessed. The scores range from 0 (no recognitions of differential knowledge) to 4 (no intrusion of privileged information). Following the procedure outlined by Chandler (1973), individual children described cartoon sequences; these descriptions were audiotaped. Each experimenter listened to and scored approximately one-third of the tapes. Inter-rater agreement for the scoring of these tapes was 91%, arrived at by comparing the scores of two experimenters for ten randomly chosen subjects. The scores from this measure were correlated with measures of persuasion.

Each persuasive utterance was scored by two coders according to Clark and Delia's (1976) categories (with 93% agreement). Redundant arguments were not recounted to control verbosity. The categories are outlined in Figure 1. Dependent measures were the frequencies of different aspects of the model. The categories purport to measure one's social perspective taking ability to the extent that a low score, e.g., a "no support for request" argument, should reflect a low degree of social perspective taking (Clark & Delia, 1976). The aspects of the model analyzed were: variety of requests (number of different requests); variety of supports for requests; total number of requests; total number of supports; highest request generated and highest support generated.

Results

The means for the measures of persuasion (variety of requests; variety of supports; total number of request; total number of supports; highest request; and highest support), according to age and channel are displayed in Table 1.

/Table 1 here/

The first objective of the study was to examine relations between measures of persuasion in each channel and children's cognitive role-taking status. In the correlation analyses, we controlled for subjects' age because Chandler's measure correlated significantly with age (r = .36, p < .02). In the oral channel, their was only one significant partial correlation: between cognitive role-taking and total number of requests produced (r = .26, p < .05). In the written channel, however, cognitive role-taking correlated significantly with: variety of requests (r = .31, p < .02), highest level request (r = .25, p < .05), and total number of supports for requests (r = .26, p < .05). The results generally suggest that persuasives in the written channel, as opposed to persuasives in the oral channel, are more related to children's cognitive role-taking status.

The second objective of the study was to determine the main and interactive effects of age and channel of communication on measures of persuasion. Age, generally, had a consistent effect. Age had a main effect on highest requests, F (2, 56) = 7.43, p < .001, with fifth graders (M = 3.99) generating significantly higher requests than first graders (M = 2.60); third graders (M = 3.43) were not significantly different from the other two grades.

Age also had main effects on all of the support for request categories: variety of supports, F (2, 56) = 16.67, $p < .0001$; total supports, F (2, 56) = 9.98, $p < .0002$; and highest supports, F (2, 56) = 17.61, $p < .0001$. Regarding variety of supports, fifth (M = 1.53) and third graders (M = 1.21) were not reliably different, but they were both reliably higher than first graders (M = .40). The results were similar for total supports: fifth (M = 2.53) and third (M = 1.91) graders both generated significantly more supports than first graders (M = .65). Regarding the highest level of support for requests, fifth graders (M = 5.15) produced significantly higher supports than third graders (M = 7.08), who in-turn, generated significantly higher supports than first graders (M = 1.45).

Age also interacted significantly with channel of communication on two measures, variety of requests, F (2.56) = 3.33, $p < .04$, and total number of requests, F (2, 56) = 4.43, $p < .01$. For each of these measures, however, there were also main effects for channel of communication: variety of requests, F (1, 56), $p < .001$, and total requests, F (1, 53) = 8.13, $p < .006$. In light of the statistical interactions, channel effects were examined at each grade level. The only significant channel effects, for both measures, were at the fifth grade. For variety of requests, fifth graders generated significantly more in the written channel (M = 1.87) than in the oral channel (M = 1.00). Similarly, for total number of requests, fifth graders produced more in the written channel (M = 2.50) than in the oral channel (M = 1.12).

Discussion

The first objective of the study was to examine relations between children's cognitive role-taking status and measures of persuasive argument production in two channels. There were a total of 12 correlations coefficients calculated. Of these 12 only four (three in the written channel and one in the oral channel) were significant. In addition, the magnitude of these correlation was low (ranging from .25 to .31). These results provide support, albeit weak, for the theoretical link between persuasion and cognitive role taking suggested in literature. Given the strong psychometric qualities of Chandler's instrument and the lack of ceiling or floor effects, we cannot fault the measure of social-cognition for these results. Results from the present study are supported by other experimental work using other measures of social-cognition (e.g., Rubin & Piche, 1979).

The second objective of the study was to determine the main and interactive effects of age and channel of communication on measures of persuasion. The observed age effects were expected. Our data support the previous research (e.g., Clark & Delia, 1976; Rubin & Piche, 1979) that complexity and differentiation of persuasive messages develop across the elementary school period.

The written channel seemed to facilitate the production of a large number and a variety of requests only at the fifth grade. One possible explanation is that fifth graders were better able to exploit the potential of the written channel for constructing and discovering a variety of propositions (Kintsch, 1980). A second, and preferred, explanation is that the increased reflectivity permitted in written discourse allowed fifth graders, but not

younger children, to plan more and more differentiated messages. They may have used this increased time to plan messages addressed to the different psychological attributes of the persuadees.

This second explanation, that fifth graders, not younger children, were capable of using the increased time available in the written channel to plan their persuasive texts, is supported by a body of work on children's planning in written discourse (e.g., Scardamalia & Bereiter, in press; Burtis, Bereiter, Scardamalia & Tetroe, in press). This research suggests that the quantity of children's content oriented plans for written opinion pieces doubles between the fourth and sixth grades. Thus, a plausible explanation for the often reported (e.g., Danielwicz, 1984) similarity between young children's (i.e., younger than 10 years) oral and written texts may be that younger children do not plan their written texts to the extent that older children do.

Further, these grade by channel interactions support neither Kroll's (1978) nor Higgins' (1977) theses. Regarding Kroll's thesis, the writing process did not interfer with young children's production of a variety of complex ideas; younger children's performance in the written channel was not significantly worse than their oral performance. Higgins' (1977) theory of the facilitative effect of writing for young children was not supported; the only significant channel differences observed were at the fifth grade. The very different results of the present study from these two studies may be explained in terms of the effect of different rhetorical modes used in each study. In the Higgins (1977) and Kroll (1978) studies children were asked to produce discourse in the referential and expository modes, respectively. In

the present study the presuasive mode was used. Research has shown consistently that the form, or structure, of discourse is affected by the rhetorical mode, or function, it serves (Halliday, 1977; Pellegrini et al, in press). To test the generalizability of the facilitative effects of written discourse across the elementary school period one must control or systematically vary the rhetorical mode.

The use of the dictation procedure as an approximation of writing (King & Rental, 1979) also merits discussion from a methodological perspective. The lack of differences between this procedure and the oral procedure in this and other experimental work (Pellegrini et al, in press) suggests that dictation is not an approximation of writing. Indeed, the two procedures seem to be parallel. In light of these results we cannot make conclusions about the first grade channel effects.

In conclusion, the present study supports the notion that children's persuasive messages become more differentiated as a function of both age and channel of communication. These results are of both theoretical and pedagogical importance. In terms of theory, that children appear to be communicatively more competent in one channel than in another raises the competence-performance issue (Flavell & Wohlwill, 1969). Children's perceived competence on a number of tasks seems to be affected by the medium in which they are asked to perform (e.g., Siegel, Saltz & Roskind, 1966). Thus, inferences regarding communicative competence measured in one medium should be limited. In terms of pedagogy, the written medium seems facilitative of fifth graders' production of persuasive measures. It does not interfere, with younger children's message production.

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Table 1

MEANS AND STANDARD DEVIATIONS FOR PERSUASIVE MESSAGES
BY GRADE AND CHANNEL

	GRADES											
	1				3				5			
Persuasives	oral		writ		oral		writ		oral		writ	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Requests												
Total	1.30	.80	1.10	1.07	1.04	.76	1.65	1.26	1.12	.34	2.50	2.03
Variety	1.20	.61	1.20	.89	.95	.47	1.39	.83	1.00	.36	1.87	1.31
Highest	3.00	2.17	2.20	2.41	3.39	2.08	3.47	1.16	3.87	.34	4.12	2.36
Supports												
Total	.50	.68	.80	1.43	2.04	2.40	1.78	1.56	2.06	2.26	3.00	2.85
Variety	.45	.60	.35	.48	1.21	1.04	1.21	.85	1.25	1.00	1.81	1.60
Highest	1.70	2.45	1.20	2.11	3.95	3.21	4.21	2.74	5.25	3.58	5.06	4.07

Figure I

Forms of request and support for request*

I. Form of request

0. No explicit statement of request

1. Statement of desire or request
   a. unelaborated statement of desire
   b. intensity as a longevity of desire
   c. plea
   d. unelaborated request

2. Request phrased to forestall counter arguments
   a. request limited to become more acceptable
   b. request elaborates details of proposal to demonstrate that little is required of others
   c. indicates why persauder needs help from others

3. Request phrased to acknowledge desires of persaudee
   a. unelaborated request reflecting desires of persaudee
   b. request phrased as favor to persaudee
   c. request is phrased to demonstrate accomplishment of mutual goal to which both are committeed.

II. Support for request

0. No support

1. Demonstrates need for support
   a. as a right
   b. why necessary, desirable, or useful to one in need
   c. why necessary, desirable, or useful to a third party

2. Dealing with counterarguments
   a. acknowledging counterarguments
   b. refuting counterarguments
   c. alleviating effects of counterarguments

3. Supplies advantage to the other
   a. bribes
   b. general advantage to any one granting this request
   c. specific advantage to one with characteristics of persaudee
   d.. taking perspective of other articulating advantage to him

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*from Clark and Delia, 1976